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[0001] This application claims priority to U.S. provisional application no. 60/437,730 filed on January 3, 2003, the entire content of which is incorporated herein by reference.

### FIELD OF THE INVENTION

[0002] This invention generally relates to dispensers for dispensing food products. More particularly, the present invention pertains to a condiment dispenser for dispensing desired amounts of condiment from a condiment-containing receptacle.

### BACKGROUND OF THE INVENTION

[0003] Various types of food service establishments such as restaurants and fast food facilities serve a variety of food items. With at least some of the food items, patrons oftentimes prefer to consume the food item accompanied by one or more condiments. These condiments include ketchup, mustard, mayonnaise, relish and possibly others.

[0004] These condiments are sometimes served or provided to the patrons in individual serving packages. Another approach involves providing containers of condiments from which customers can obtain the desired amount of condiment. For example, some fast food establishments provide canisters of different condiments, each provided with a hand operated pump dispenser. In the case of this latter approach, food service establishments oftentimes find it more cost-effective to purchase rather large, industrial size containers of condiments from condiment suppliers. From these large containers, the food service establishment fills the smaller containers (e.g., the pump dispenser canisters mentioned above) which are made available to the patrons for individual dispensing and consumption. Food service establishments might also dispense a

quantity of the condiment into a smaller container for use in dressing food items (e.g., sandwiches, hamburgers, etc.).

[0005] In the past, larger quantities of condiments have been packaged in bags which are used by food service establishments and the like in the manner described above. The bags are provided with an exteriorly threaded tube that communicates with the interior of the bag. A removable cap covers the tube to ensure that the contents of the bag do not flow through the tube prior to use (e.g., during shipment and storage). To dispense the condiment, the cap is removed and a spout is connected to the tube by threadably engaging an interiorly threaded ring on the spout with the exteriorly threaded portion of the tube. The spout includes an outlet end and a plastic element covering a hole provided in the spout. The plastic element is connected to a manually operated lever. By manually pressing the lever, the plastic element is moved away from the hole in the spout so that condiment in the bag can flow by gravity through the hole and out of the outlet end of the spout. Upon releasing the lever, the plastic element automatically returns to its initial position covering the hole in the spout to stop further flow of condiment.

[0006] While it may be cost efficient to purchase large industrial size quantities of condiments, these approaches also present certain drawbacks. For example, condiment in the large container is not easily dispensed into the smaller containers for use by patrons. Also, difficulties may be created with respect to storing the condiment in the large container after a portion of the condiment has been dispensed into the smaller container. In the case of the bags mentioned above, as the condiment is dispensed from the spout, the condiment can adhere to the inside surface of the spout and accumulate over time which may not be desirable. In addition, the spout is specifically designed to be removable so that once the bag is emptied to the extent possible, the spout is removed and attached to another bag. This can create difficulties as the user may forget to remove the spout before discarding the emptied bag. Also, the spout must be cleaned prior to

reuse to remove accumulated condiment on the interior of the spout. Also, it has been found to be somewhat difficult to completely empty the bag and so useful condiment may be discarded with the bag.

### SUMMARY OF THE INVENTION

[0007] A condiment dispenser is comprised of a holder having walls which together define an interior of the holder, and a condiment container having an interior containing a quantity of an edible food condiment. The condiment container is provided with a dispensing nozzle through which the condiment in the condiment container is dispensed from the condiment container. The condiment container is adapted to be positioned in the interior of the holder with the dispensing nozzle accessible from outside the holder so that the condiment can be dispensed from the condiment container. The condiment dispenser also includes a shaft on which the condiment container is adapted to be wound to apply pressure to the condiment in the condiment container to dispense the condiment through the dispensing nozzle.

[0008] According to another aspect of the invention, a condiment dispenser for dispensing condiment from a condiment containing bag through a dispensing nozzle provided on the condiment containing bag comprises a holder having a plurality of upright walls surrounding an enclosed space in the holder which is adapted to receive the condiment containing bag so that the dispensing nozzle of the condiment containing bag is accessible from outside the holder, and a shaft rotatably mounted at the holder and on which the condiment containing bag is adapted to be wound to apply pressure to the condiment in the condiment containing bag and thereby dispense the condiment in the condiment containing bag through the dispensing nozzle. A handle is connected to the shaft to rotate the shaft so as to wind the condiment containing bag on the shaft and apply pressure

to the condiment in the condiment containing bag causing the condiment to be dispensed from the dispensing nozzle.

### **BRIEF DESCRIPTION OF THE DRAWING FIGURES**

[0009] Features and details associated with the present invention will become more apparent from the following detailed description considered with reference to the accompanying drawing figures in which like reference numerals designate like elements.

[0010] Fig. 1 is a perspective view of an embodiment of the condiment dispenser of the present invention.

[0011] Fig. 2 is a perspective view of one version of a condiment-containing bag which can be used in the condiment dispenser shown in Fig. 1.

[0012] Fig. 3 is a perspective view of another condiment-containing bag which can be used in the condiment dispenser shown in Fig. 1.

[0013] Fig. 4 is a perspective view of the nozzle forming a part of either of the condiment-containing bags shown in Figs. 2 and 3.

[0014] Fig. 5 is an enlarged perspective view of a portion of the condiment dispenser shown in Fig. 1.

[0015] Fig. 6 is an end view in cross-section of the pawl and ratchet arrangement disposed inside the handle housing shown in Fig. 1.

### **DETAILED DESCRIPTION**

[0016] Referring initially to Fig. 1, a condiment dispenser according to one illustrated embodiment of the invention is comprised of three primary parts, namely a disposable condiment-containing bag 10, a bag holder 30 and a pressure applying mechanism 50. The condiment-containing bag 10 is adapted to be positioned in the bag holder 30 in the manner shown in Fig. 1. The condiment-containing bag 10 is flexible and can be fabricated from various types of suitable plastic materials. By way of example, the bag can be fabricated from a

single ply, multi-layer material in which metallized PET is sandwiched between or disposed within a modified linear low density polyethylene material. Of course, other materials (e.g., EVOH) and constructions are possible. The condiment-containing bag 10 can be produced by, for example, sealing together two plastic sheets along their peripheral edges to form an enclosed bag. Prior to completely sealing the condiment-containing bag, the appropriate condiment can be introduced into the bag 10. These condiments are edible food condiments consumed with other food items and include ketchup (including ketchup-based sauces that may be flavored), mustard (including mustard-based sauces that may be flavored), mayonnaise (including mayonnaise-based sauces that may be flavored), tartar sauce, and other specialty sauces such as barbecue sauce.

[0017] Fig. 2 illustrates one example of a suitable form of the condiment-containing bag. The illustrated condiment-containing bag 10 is generally rectangular in form (e.g., square), and is sealed in seal areas 12 along its peripheral edges. The condiment-containing bag 10 can be any desired size, preferably generally adapted to the size of the bag holder 30. The condiment bag is preferably sized to contain more than one gallon of condiment, preferably between 1-5 gallons, and more preferably approximately 3 gallons of condiment.

[0018] The condiment-containing bag is also provided with a dispensing nozzle 14 for dispensing condiment in the bag. In the embodiment of the condiment-containing bag illustrated in Fig. 2, the dispensing nozzle 14 is positioned in one corner of the bag. As the condiment is dispensed from the condiment-containing bag 10, the condiment is directed to the bottom corner of the condiment-containing bag 10. Positioning the dispensing nozzle 14 in the corner of the condiment-containing bag facilitates emptying as much of the condiment in the bag as possible.

[0019] Fig. 4 illustrates an example of the dispensing nozzle 14 that can be attached to the condiment-containing bag 10 for dispensing condiment from the bag. The dispensing nozzle 14 is preferably made of plastic material and includes

a flange 16 sealed to the bag and a spout 18 extending from the flange 16. In the illustrated embodiment, the spout 18 is cylindrical in shape, although other shapes are possible. The flange 16 is fixed to the condiment-containing bag 10 in any appropriate manner so that the interior of the cylindrical spout 18 communicates with the interior of the bag 10. The dispensing nozzle 14 is fixed to the bag in a non-removable manner so that the dispensing nozzle 14 is discarded as a part of the bag 10 after the bag is emptied.

[0020] The cylindrical spout 18 is provided with a valve 20 positioned near the open end of the spout 18 that is remote from the flange 16. In the illustrated embodiment of the dispensing nozzle 14 shown in Fig. 4, the valve 20 is in the form of a plastic membrane. This plastic membrane is comprised of a plastic disk provided with several slits 22 that intersect one another to form a cross-shaped pattern in the plastic membrane. The intersecting slits 22 thus form flaps that are able to open and allow condiment in the condiment-containing bag 10 to be dispensed upon application of a predetermined pressure to the condiment in the bag 10. More specifically, in the absence of pressure exceeding a predetermined pressure, the valve 20 prevents condiment in the condiment-containing bag 10 from being dispensed from the bag 10. On the other hand, when pressure exceeding the predetermined pressure is applied to the condiment in the bag, the flaps formed by the slits 22 in the plastic membrane are forced open to allow condiment in the bag to be dispensed.

[0021] The plastic membrane forming the valve 20 can be in the form of a silicone membrane, although other plastic materials such as polypropylene can be employed. Also, in the illustrated version, the plastic membrane forming the valve 20 includes two slits that intersect one another, although other numbers of slits may be employed depending upon, for example, the flow characteristics desired and the type of condiment.

[0022] The dispensing nozzle 14 can also be provided with a peelable seal 24 that covers the remote end of the cylindrical spout 18 to thus cover the valve 20

prior to first use. To dispense condiment from the condiment-containing bag the first time, the peelable seal 24 is removed to expose the valve 20.

[0023] Fig. 3 illustrates an alternative embodiment of the condiment-containing bag 10'. This embodiment of the condiment-containing bag 10' also possesses a generally rectangular form (e.g., square shape) that is sealed along its sides 12'. In this version of the condiment-containing bag 10', the nozzle 14 is positioned adjacent the bottom end of the condiment-containing bag 10' at a point generally midway between the vertical sides of the bag. In addition, the condiment-containing bag 10' shown in Fig. 3 is provided with additional seals 13' that are generally diagonally oriented, extending from the vertical upright sides of the condiment-containing bag 10' to the bottom side of the condiment-containing bag 10'. These additional seals 13' impart a funnel-type configuration to the bag 10' to help direct condiment in the condiment-containing bag 10' towards the nozzle 14. In this way, condiment is prevented from collecting in the corners of the bag. It is thus possible with this configuration of the condiment-containing bag 10' to position the nozzle 14 adjacent the bottom side of the bag 10' while at the same time facilitating emptying as much of the condiment in the bag 10' as possible. The nozzle 14 forming a part of the condiment-containing bag 10' shown in Fig. 3 can have a construction similar to the nozzle illustrated in Fig. 4.

[0024] Turning back to Fig. 1, the bag holder 30 includes a front wall 32, an oppositely positioned rear wall 34, two oppositely positioned side walls 36, and a bottom wall 33. The front wall 32, the rear wall 34 and the side walls 36 define an interior of the bag holder 30 that receives the condiment-containing bag 10, 10', with the top of the bag holder 30 being open to allow the condiment-containing bag 10, 10' to be placed in the bag holder 30. As further illustrated in Fig. 1, the bag holder 30 possesses angled, generally diagonally oriented lower side walls 42 positioned between the upright side walls 32 and the

bottom wall 33 of the bag holder 30. These angled walls 42 help direct condiment in the condiment-containing bag 10 towards the nozzle 14.

[0025] The front wall 32 of the bag holder 30 is provided with a vertically extending through slot 38. The nozzle 14 of the condiment-containing bag 10 projects through the bottom portion of the slot 38 in the manner shown in Figs. 1 and 5. In the illustrated embodiment, the slot 38 in the front wall 32 of the bag holder 30 opens to the top edge of the front wall 32 and extends vertically downward to a point spaced a small distance from the bottom 33 of the bag holder 30. This allows the dispensing nozzle 14 to be relatively easily located in the illustrated position when the condiment-containing bag is placed in the bag holder 30. Of course, it is also possible to provide a vertical slot 38 that stops short of the upper edge of the front wall 32 if desired. The dispensing nozzle 14 is also seated or rests on the bottom of the slot 38. The slot 38 and/or the dispensing nozzle 14 can also be appropriately configured to secure or engage the dispensing nozzle 14 in the slot 38 at the desired position (e.g., the illustrated position), such as by way of a snap-fit engagement.

[0026] The bag holder 30 is preferably made of lightweight material such as plastic (e.g., ABS or other plastic materials suitable for the purpose) and is adapted to be mounted on a vertical wall or other suitable vertical structure. This can be accomplished by providing the bag holder 30 with an appropriate mounting mechanism. For example, the rear wall 34 of the bag holder 30 can be outfitted with a pair of cut-outs adapted to receive mounting pegs, hooks or the like affixed to and extending from the wall or other vertical surface. Alternatively, the bag holder 30 can be provided with hooks adapted to engage a mounting bar or other suitable structure. The bag holder 30 can thus be mounted at a suitable position so that the overall condiment dispenser is positioned at a location which facilitates its use.

[0027] Each of the side walls 36 of the bag holder 30 is provided with a vertically extending slot 40. As will be described in more detail below, these slots



40 in the side walls 36 receive a portion of the pressure applying mechanism for applying pressure to the condiment in the condiment-containing bag.

[0028] The pressure applying mechanism 50 is comprised of a shaft 52 supported in a pair of slidable brackets 54. The shaft can be made of metal (e.g., stainless steel), plastic or other suitable material acceptable for the environment. Each of the brackets 54 is mounted in the slot 40 in one of the side walls 36 of the bag holder 30 and is capable of sliding along the length of the respective side wall 36. As best illustrated in Fig. 5, the oppositely positioned vertical sides of each bracket 54 are provided with respective grooves adapted to receive the edges of the side wall 36 that bound the slots 40. The brackets 54 each function as a sliding bearing.

[0029] The shaft 52 is rotatably supported in the brackets 54 and extends across the interior of the bag holder 30. The condiment-containing bag 10, 10' is adapted to be wrapped around the shaft 52. If desired, an appropriate mechanism can be provided to fix the end of the bag to the shaft 52 to prevent the condiment-containing bag from becoming separated from the shaft 52. By way of example, the shaft 52 can be provided with a slot in which is positioned the end of the condiment-containing bag.

[0030] The pressure applying mechanism 50 further includes a ratchet 56 and a pawl 58 positioned adjacent one side of the bag holder 30. The ratchet 56 is fixed to the shaft 52 so that the ratchet 56 and the shaft 52 rotate together as a unit, while the pawl 58 is mounted on the bracket 54. The tip of the pawl 58 engages the teeth on the ratchet 56 in a way that permits rotation of the shaft 52 in one direction (e.g., the counterclockwise direction as seen from the right end of the shaft 52 in Fig. 1) while also preventing rotation of the shaft 52 in the opposite direction (e.g., the clockwise direction as seen from the right end of the shaft 52 in Figs. 1).

[0031] The pressure applying mechanism 50 further includes a handle or lever 60 that is mounted at or fixed to a housing 70. The handle 60 is operatively

engageable with the shaft 52 in such a way that when the handle 60 is rotated in one rotational direction, the shaft 52 rotates together with the handle 60 and when the handle 60 is rotated in the opposite rotational direction, the handle 60 rotates relative to the shaft 52. Fig. 6 illustrates the mechanism that permits this movement.

[0032] As shown in Fig. 6, a pawl 72 and a ratchet 74 are positioned within the housing 70, with the ratchet 70 being fixed to the shaft 52 to rotate together with the shaft 52. The pawl 72 is suitably secured in place inside the housing 70 and is biased by a spring 76 into engagement with the ratchet 72. By virtue of the engagement of the pawl 72 with the ratchet 74, the rotation of the handle 60 in one direction causes the ratchet 74 and the handle to rotate together, thus rotating the shaft 52. On the other hand, when the handle 60 is rotated in the opposite direction, the handle 60 rotates relative to the ratchet 74 so that the shaft 52 does not rotate. Thus, by way of example, rotating the lever 60 in the counterclockwise direction as seen with reference to the right end of the shaft 52 shown in Fig. 1 causes the shaft 52 to be rotated in the direction of the arrow X shown in Fig. 1. This rotation causes the condiment-containing bag 10, 10' to be further wound around the shaft 52, thus increasing the pressure in the bag 10, 10'. This increase in pressure opens the valve 20 to dispense condiment within the condiment-containing bag to through the dispenser nozzle 14. Once the handle 60 is released, the pawl 58 prevents the shaft 52 from rotating in the opposite direction. The ratchet 74 and pawl 72 shown in Fig. 6 allow the handle 60 to be rotated in the opposite direction (i.e., the clockwise direction as seen with reference to the right end of the shaft 52 shown in Fig. 1) without rotating the shaft 52. This permits the position of the handle 60 to be readjusted without rotating the shaft. That is, with the handle 60 oriented in a generally upwardly directed position, the user can rotate the handle 60 in the counterclockwise direction to dispense condiment for the bag. When the handle 60 reaches a generally downwardly directed position, the user can rotate the handle 60 in the

clockwise direction without rotating the shaft 52 to reposition the handle 60 in a generally upwardly directed position. The handle 60 can then be rotated once again in the counterclockwise direction to dispense more condiment from the bag. The ratchet 74 and pawl 72 arrangement shown in Fig. 6 thus provides a more convenient operation of the handle 60 so that it is not necessary to rotate the handle through a full 360 degree rotation to dispense condiment from the bag.

[0033] Of course, it is to be understood that the condiment-containing bag can be wound on the shaft 52 in the opposite direction, in which case the handle 60 is operated in the direction opposite to that described above to dispense condiment from the condiment-containing bag 10, 10'.

[0034] To use the condiment dispenser illustrated in Fig. 1, a condiment-containing bag 10, 10' containing the desired type of condiment is placed in the bag holder 30. The condiment-containing bag is positioned in the bag holder 30 so that the dispenser nozzle 14 projects outwardly from the front wall 32 and is positioned in the bottom portion of the slot 38 in the front wall 32 in the illustrated manner. To more easily place the condiment-containing bag in the bag holder 30, it is desirable to first remove the pressure applying mechanism 50. This can be rather easily accomplished because the brackets 54 supporting the shaft 52 and the other parts of the pressure applying mechanism can be slid upwardly along the slots 40 and through the open top of the bag holder.

[0035] To secure the flexible condiment-containing bag 10, 10' to the shaft 52, the top end of the flexible 10, 10' is wrapped around the shaft 52, possible being secured to the shaft 52 in an appropriate manner as mentioned above. This can be accomplished either before or after the bag is placed in the bag holder 30. In addition, the peelable seal 24 on the end of the dispenser nozzle 14 is removed to expose the valve 20. The condiment dispenser is now ready for use.

[0036] When an individual is interested in dispensing condiment from the condiment-containing bag, such as for filling a small container for use by patrons or others, the handle 60 is rotated in the appropriate direction to further wind the

flexible condiment-containing bag 10, 10' on the shaft 52 and increase the pressure within the bag. Referring to the condiment dispenser shown in Fig. 1, this involves rotating the lever 60 in the counterclockwise direction as seen from the right end of the shaft 52 in Fig. 1. This rotation of the handle 60 causes the shaft 52 to also rotate so that the flexible bag 10, 10' is further wrapped around the shaft 52. The resulting increase in pressure within the condiment-containing bag causes condiment in the condiment-containing bag to be dispensed through the dispensing nozzle 14.

[0037] The valve 20 of the dispensing nozzle 14 is designed to remain closed until the pressure within the condiment-containing bag 10, 10' reaches or exceeds a predetermined pressure. This predetermined pressure can be selected by varying characteristics associated with the plastic membrane such as its thickness, material and rigidity, and the arrangement and number of slits 22 provided in the plastic membrane. Once the pressure in the flexible bag equals or exceeds the predetermined pressure value, the valve 20 automatically opens and condiment is dispensed through the dispensing nozzle 14.

[0038] Once the desired amount of condiment has been dispensed, the handle 60 is released, thus preventing further increase in pressure within the condiment-containing bag 10, 10'. When the handle 60 is released, the pawl 58 engages the ratchet 56 to prevent reverse rotation of the handle 60 in the opposite direction. Once the handle 60 is released, the pressure within the condiment-containing bag no longer exceeds the predetermined valve opening pressure. The valve 20 thus automatically closes and prevents additional condiment from being dispensed.

[0039] By successively operating the handle 60 in this manner, the desired amount of condiment can be dispensed, with the valve 20 automatically closing each time the handle 60 is released. As the condiment in the condiment-containing bag is dispensed, more of the bag becomes wound on the shaft 52. As this occurs, the pressure applying mechanism 50 is able to move downwardly relative to the

bag holder 30 by virtue of the sliding or bearing engagement between the brackets 54 and the side walls 32 of the bag holder 30. The bag 10, 10' thus continues to rest on the bottom of the bag holder 30.

[0040] Also, as mentioned above, it is possible to reposition the handle by rotating the handle 60 in the direction which is opposite the direction causing condiment to be dispensed from the bag. The user is thus free to position the handle at a desired position for dispensing condiment.

[0041] Once all of the condiment has been dispensed from the condiment dispenser, the empty bag 10, 10' can be simply unwound from the shaft 52 and discarded, and replaced by a new filled condiment-containing bag. Thus, with this construction, the entire condiment-containing bag is disposable, including the nozzle with the valve.

[0042] The condiment dispenser here is thus able to dispense condiment in the desired amount in a relatively easy manner. The opening of the valve 20 to initiate dispensing occurs automatically when the handle 60 is rotated. Similarly, the closing of the valve 20 to stop dispensing occurs automatically by simply releasing the handle 60. This provides easy control of the dispensing operation as well as the amount of condiment dispensed. The wall dispenser is also versatile in that it can be mounted in a variety of locations to suit the user.

[0043] The principles, preferred embodiments and modes of operation of the present invention have been described in the foregoing specification. However, the invention which is intended to be protected is not to be construed as limited to the particular embodiments disclosed. Further, the embodiments described herein are to be regarded as illustrative rather than restrictive. Variations and changes may be made by others, and equivalents employed, without departing from the spirit of the present invention. Accordingly, it is expressly intended that all such variations, changes and equivalents which fall within the spirit and scope of the present invention as defined in the claims, be embraced thereby.